We claim:-

1. A process for pickling metallic surfaces by treating the metallic surface with an acidic aqueous formulation which comprises at least one acid, a pickling inhibitor and optionally further additives, wherein the aqueous formulation comprises at least the following components:

   (a) from 60 to 99.99% by weight of a mixture of water and at least one acid,

   (b) from 0.01 to 2% by weight of at least one alkyne alkoxylate of the formula

   $$HC\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CHR^1\text{-}O\text{-})_nH$$

   or

   $$H(\text{-}O\text{-}CHR^1\text{-}CH_2\text{-})_n\text{-}O\text{-}CH_2\text{-}C\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CHR^1\text{-}O\text{-})_{n'}H,$$

   where the radicals R^1 in each case independently of one another are H or methyl
   and the indices n and n' independently of one another are from 1 to 10,

   (c) from 0 to 38% by weight of one or more additives and/or assistants.

2. The process according to claim 1, wherein the indices n and n', independently of one another, are from 1 to 3.

3. The process according to claim 1 or 2, wherein the composition furthermore comprises from 0.01 to 20% by weight of at least one surface-active substance.

4. The process according to any of claims 1 to 3, wherein the composition furthermore comprises from 0.01 to 10% by weight of at least one water-soluble, at least bidentate, chelate-forming complexing agent comprising acidic groups.

5. The process according to claim 4, wherein the weight ratio of complexing agent to pickling inhibitor is from 5:1 to 1:10.

6. The process according to any of claims 1 to 3, wherein the composition furthermore comprises from 0.01 to 10% by weight of at least one water-soluble polymer comprising quaternized ammonium groups.

7. The process according to any of claims 1 to 6, wherein the amount of water and acid is from 70 to 99.99% by weight.

8. The process according to any of claims 1 to 7, wherein the pH of the composition is from 3 to 6.

9. The process according to any of claims 1 to 8, wherein the acid is at least one acid selected from the group consisting of hydrochloric acid, sulfuric acid, methanesulfonic acid and phosphoric acid.

10. The process according to any of claims 1 to 9, wherein the metallic surface is the surface of iron, steel, zinc, brass or aluminum.

11. The process according to any of claims 1 to 10, wherein the surface is the surface of a strip metal.

12. An acidic, aqueous composition for pickling metallic surfaces, which comprises at least one acid, a pickling inhibitor and optionally further additives, wherein the aqueous formulation comprises at least the following components:

(a) from 60 to 99.97% by weight of a mixture of water and at least one acid,

(b) from 0.01 to 2% by weight of at least one alkyne alkoxylate of the formula

$$HC\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CHR^1\text{-}O\text{-})_nH$$

or

$$H(\text{-}O\text{-}CHR^1\text{-}CH_2\text{-})_n\text{-}O\text{-}CH_2\text{-}C\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CHR^1\text{-}O\text{-})_{n'}H,$$

where the radicals R^1 in each case independently of one another are H or methyl and the indices n and n', independently of one another, are from 1 to 10,

(c) from 0.01 to 20% by weight of at least one surface-active substance, and

(d) from 0.01 to 10% by weight of at least one water-soluble, at least bidentate, chelate-forming complexing agent comprising acidic groups and/or at least one water-soluble polymer comprising quaternized ammonium groups.

13. The composition according to claim 12, wherein the aqueous formulation has the following composition:

(a) from 70 to 98.9% by weight of a mixture of water and at least one acid,

(b) from 0.1 to 2% by weight of alkyne alkoxylates,

(c) from 0.5 to 15% by weight of a surface-active substance, and

(d) from 0.5 to 10% by weight of a chelate-forming complexing agent and/or a polymer comprising quaternized ammonium groups.

We claim:-

1. A process for pickling metallic surfaces by treating the metallic surface with an acidic aqueous formulation which comprises at least one acid, a pickling inhibitor and optionally further additives, wherein the aqueous formulation comprises at least the following components:

   (a) from 60 to 99.99% by weight of a mixture of water and at least one acid,

   (b) from 0.01 to 2% by weight of at least one alkyne propoxylate of the formula

   $$HC\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CH(CH_3)\text{-}O\text{-})_nH \qquad (I)$$

   or

   $$H(\text{-}O\text{-}CH(CH_3)\text{-}CH_2\text{-})_n\text{-}O\text{-}CH_2\text{-}C\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CH(CH_3)\text{-}O\text{-})_{n'}H, \qquad (II)$$

   where the indices n and n' independently of one another are from 1 to 10,

   (c) from 0 to 38% by weight of one or more additives and/or assistants.

2. The process according to claim 1, wherein the indices n and n', independently of one another, are from 1 to 3.

3. The process according to claim 1 or 2, wherein the composition furthermore comprises from 0.01 to 20% by weight of at least one surface-active substance.

4. The process according to any of claims 1 to 3, wherein the composition furthermore comprises from 0.01 to 10% by weight of at least one water-soluble, at least bidentate, chelate-forming complexing agent comprising acidic groups.

5. The process according to claim 4, wherein the weight ratio of complexing agent to pickling inhibitor is from 5:1 to 1:10.

6. The process according to any of claims 1 to 3, wherein the composition furthermore comprises from 0.01 to 10% by weight of at least one water-soluble polymer comprising quaternized ammonium groups.

7. The process according to any of claims 1 to 6, wherein the amount of water and acid is from 70 to 99.99% by weight.

8. The process according to any of claims 1 to 7, wherein the pH of the composition is from 3 to 6.

9. The process according to any of claims 1 to 8, wherein the acid is at least one acid selected from the group consisting of hydrochloric acid, sulfuric acid, methanesulfonic acid and phosphoric acid.

10. The process according to any of claims 1 to 9, wherein the metallic surface is the surface of iron, steel, zinc, brass or aluminum.

11. The process according to any of claims 1 to 10, wherein the surface is the surface of a strip metal.

12. A process for pickling metallic surfaces by treating the metallic surface with an acidic aqueous formulation which comprises at least one acid, a pickling inhibitor and optionally further additives, wherein the aqueous formulation comprises at least the following components:

(a) from 60 to 99.97% by weight of a mixture of water and at least one acid,

(b) from 0.01 to 2% by weight of at least one alkyne alkoxylate of the formula

$$HC\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CHR^1\text{-}O\text{-})_nH \qquad (I)$$

or

$$H(\text{-}O\text{-}CHR^1\text{-}CH_2\text{-})_n\text{-}O\text{-}CH_2\text{-}C\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CHR^1\text{-}O\text{-})_{n'}H, \qquad (II)$$

where the radicals R^1 in each case independently of one another are H or methyl and the indices n and n', independently of one another, are from 1 to 10,

(c) from 0.01 to 20% by weight of at least one surface-active substance, and

(d) from 0.01 to 10% by weight of at least one water-soluble, at least bidentate, chelate-forming complexing agent comprising acidic groups and/or at least one water-soluble polymer comprising quaternized ammonium groups.

13. An acidic, aqueous composition for pickling metallic surfaces, which comprises at least one acid, a pickling inhibitor and optionally further additives, wherein the aqueous formulation comprises at least the following components:

(a) from 60 to 99.97% by weight of a mixture of water and at least one acid,

(b) from 0.01 to 2% by weight of at least one alkyne alkoxylate of the formula

$$HC\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CHR^1\text{-}O\text{-})_nH \qquad (I)$$

or

$$H(\text{-}O\text{-}CHR^1\text{-}CH_2\text{-})_n\text{-}O\text{-}CH_2\text{-}C\equiv C\text{-}CH_2\text{-}O(\text{-}CH_2\text{-}CHR^1\text{-}O\text{-})_{n'}H, \qquad (II)$$

where the radicals R^1 in each case independently of one another are H or methyl and the indices n and n', independently of one another, are from 1 to 10,

(c) from 0.01 to 20% by weight of at least one surface-active substance, and

(d) from 0.01 to 10% by weight of at least one water-soluble, at least bidentate, chelate-forming complexing agent comprising acidic groups and/or at least one water-soluble polymer comprising quaternized ammonium groups.

14. The composition according to claim 13, wherein the aqueous formulation has the following composition:

(a) from 70 to 98.9% by weight of a mixture of water and at least one acid,

(b) from 0.1 to 2% by weight of alkyne alkoxylates,

(c) from 0.5 to 15% by weight of a surface-active substance, and

(d) from 0.5 to 10% by weight of a chelate-forming complexing agent and/or a polymer comprising quaternized ammonium groups.